Paleoseismic research of the epicentral area of the 1885 Belovodsk earthquake in the Northern Tien Shan

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Abstract. The results of the paleoseismological investigations aimed at finding the Belovodsk earthquake epicentral area are presented. New data on prehistoric earthquakes have been obtained as a result of the seismic deformations study by trenching. We found that the seismic dislocations during the 1885 earthquake fault reactivation did not extend east of the river Sokuluk. In addition, the age and kinematic features of a paleoearthquake located in the area between Sokuluk and Alamedin rivers were reestimated. This earthquake occurred in the interval cal BC 887 – cal BC 1533 and was of magnitude not less than 7.1. The minimal estimation of earthquake fault length is 32 km and the reverse-fault amplitude is 3.8 m.

Keywords: Belovodsk earthquake, paleoearthquake, trenching, radiocarbon dating, time interval estimate, Chu basin, Tian Shan.